

1 GATCACACAT TAGGTTATNG ACTTCAATAT TTTCAAATGG TTCAACTTCA GTCTTCTCTT
61 TAAAACTGGG TCCATGTCC AAGAAAGATA GCCTCCATGC TCCTAAACTC ATTGTTATAA
121 CCATGGTTGC CTCCTCCACA ATTTGTATTT GATTTACTCC TAACAGCCAG CCACTGTTGA
181 TC

Figure 2.

Figure 2A. The cDNA (SEQ ID. NO.: 744) and amino acid sequence (SEQ ID. NO.: 743) of 161P2F10B. The 3858 nucleotide sequence of 161P2F10B is shown. The codon for the start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

MESTL 1 1 ctactttattctqataaaacaggtctatgcagctaccaggacaATGGAATCTACGTTGAC ATEQPVKKNTLKKYK 61 TTTAGCAACGGAACAACCTGTTAAGAAGAACACTCTTAAGAAATATAAAATAGCTTGCAT LALLV I M S L G L G L G L 121 TGTTCTTGCTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGGACTCAG K L E K Q G S C R K K C F D A 181 GAAACTGGAAAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTGATGCATCATTTAGAGGACT ENCRCDVACKDRGDCCW 241 GGAGAACTGCCGGTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA CVESTRIWMCNKFRCGE 301 AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAATTTCGTTGTGGAGAGAC LCSCSDDCL E A S QK K D A D Y K S V C Q G E T S W L EEN 421 TGCTGACTATAAGAGTGTTTGCCAAGGAGAAACCTCATGGCTGGAAGAAAACTGTGACAC AOOSQCPEGFDLPP I L 481 AGCCCAGCAGTCTCAGTGCCCAGAAGGGTTTGACCTGCCACCAGTTATCTTGTTTTCTAT D G F R A E Y L Y T W D T L M P N I 541 GGATGGATTTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA TCGIHSKYMRA M ΥP 601 ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATECTAECAAAACCTT G L Y P Ε S Η T Ι Т 661 CCCAAATCATTACACCATTGTCACGGGCTTGTATCCAGAGTCACATGGCATCATTGACAA D V N L N K N F S L S SKE 721 TAATATGTATGATGTAAATCTCAACAAGAATTTTTCACTTTCTTCAAAGGAACAAAATAA PAWWHGQPMWLTAM Y Q G L 781 TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAAGC TYFWPGSEVAINGSFP Y N G S V P F EERI S \mathbf{T} L 901 CATGCCTTACAACGGAAGTGTCCCATTTGAAGAGAGGATTTCTACACTGTTAAAATGGCT

307 D L P K A E R P R F Y T M Y F E E P D S 961 GGACCTGCCCAAAGCTGAAAGACCCAGGTTTTATACCATGTATTTTGAAGAACCTGATTC S G H A G G P V S A R V I K A L Q V V D 1021 CTCTGGACATGCAGGTGGACCAGTCAGTGCCAGAGTAATTAAAGCCTTACAGGTAGTAGA HAFGMLMEGLKQRNLHNCVN 1081 TCATGCTTTTGGGATGTTGATGGAAGGCCTGAAGCAGCGGAATTTGCACAACTGTGTCAA IILLADHG M D Q T Y C N K M E Y M 1141 TATCATCCTTCTGGCTGACCATGGAATGGACCAGACTTATTGTAACAAGATGGAATACAT T D Y F P R I N F F Y M Y E G P A P R I 1201 GACTGATTATTTTCCCAGAATAAACTTCTTCTACATGTACGAAGGGCCTGCCCCCCGCAT RAHNIPHDFFSFNSEEIVRN 1261 CCGAGCTCATAATATACCTCATGACTTTTTTAGTTTTAATTCTGAGGAAATTGTTAGAAA LSCRKPDQHFKPYLTPDLPK 1321 CCTCAGTTGCCGAAAACCTGATCAGCATTTCAAGCCCTATTTGACTCCTGATTTGCCAAA RLHYAKNVRIDKVHLFVDQQ 1381 GCGACTGCACTATGCCAAGAACGTCAGAATCGACAAAGTTCATCTCTTTGTGGATCAACA W L A V R S K S N T N C G G G N H G Y N 1441 GTGGCTGGCTGTTAGGAGTAAATCAAATTGTGGAGGAGGCAACCATGGTTATAA NEFRSMEAIFLAHGPSFKE 1501 CAATGAGTTTAGGAGCATGGAGGCTATCTTTCTGGCACATGGACCCAGTTTTAAAGAGAA 507 TEVEPFENIEVYNL M C D L L 1561 GACTGAAGTTGAACCATTTGAAAATATTGAAGTCTATAACCTAATGTGTGATCTTCTACG I O P A P N N G T H G S L N H L L K V P 1621 CATTCAACCAGCACCAAACAATGGAACCCATGGTAGTTTAAACCATCTTCTGAAGGTGCC FYEPSHAEEVSKFSVCGFAN 1681 TTTTTATGAGCCATCCCATGCAGAGGAGGTGTCAAAGTTTTCTGTTTTGTGGCTTTGCTAA 567 PLPTESLDCFCPHLQNSTQL 1741 TCCATTGCCCACAGAGTCTCTTGACTGTTTCTGCCCTCACCTACAAAATAGTACTCAGCT -587-E-Q-V-N-Q-M-L-N-L-T-Q-E-E-I-T-A-T-V-K-V 1801 GGAACAAGTGAATCAGATGCTAAATCTCACCCAAGAAGAATAACAGCAACAGTGAAAGT 607 N L P F G R P R V L O K N V D H C L L Y 1861 AAATTTGCCATTTGGGAGGCCTAGGGTACTGCAGAAGAACGTGGACCACTGTCTCCTTTA H R E Y V S G F G K A M R M P M W S S Y 1921 CCACAGGGAATATGTCAGTGGATTTGGAAAAGCTATGAGGATGCCCATGTGGAGTTCATA T V P O L G D T S P L P P T V P D C L 1981 CACAGTCCCCAGTTGGGAGACACATCGCCTCTGCCTCCCACTGTCCCAGACTGTCTGCG 667 A D V R V P P S E S Q K C S F Y L A D K 2041 GGCTGATGTCAGGGTTCCTCCTTCTGAGAGCCAAAAATGTTCCTTCTATTTAGCAGACAA

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687
         THGFLYPPASNRTSD
2101 GAATATCACCCACGGCTTCCTCTATCCTCCTGCCAGCAATAGAACATCAGATAGCCAATA
    DALITSNLVPMYEEFRKMW
2161 TGATGCTTTAATTACTAGCAATTTGGTACCTATGTATGAAGAATTCAGAAAAATGTGGGA
    Y F H S V L L I K H A T E R N G V N V V
G 'P I F D Y N Y D G H F D A P D E I
2281 TAGTGGACCAATATTTGATTATAATTATGATGCCCATTTTGATGCTCCAGATGAAATTAC
                          IPTHYFVV
      HLANTDVP
2341 CAAACATTTAGCCAACACTGATGTTCCCATCCCAACACACTACTTTGTGGTGCTGACCAG
    C K N K S H T P E N C P G W L D V L
2401 TTGTAAAAACAAGAGCCACACCGGAAAACTGCCCTGGGTGGCTGGATGTCCTACCCTT
    I I P H R P T N V E S C P E G K P E A
2461 TATCATCCTCACCGACCTACCAACGTGGAGAGCTGTCCTGAAGGTAAACCAGAAGCTCT
    W V E E R F T A H I A R V R D V E L L
2521 TTGGGTTGAAGAAAGATTTACAGCTCACATTGCCCGGGTCCGTGATGTAGAACTTCTCAC
    G L D F Y Q D K V Q P V S E I L Q L K
2581 TGGGCTTGACTTCTATCAGGATAAAGTGCAGCCTGTCTCTGAAATTTTGCAACTAAAGAC
    YLPTFET
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2641 ATATTTACCAACATTTGAAACCACTATTTAActtaataatgtctacttaatatatatattt
2701 actgtataaagtaattttggcaaaatataagtgattttttctggagaattgtaaaataaa
2761 gttttctatttttccttaaaaaaaaccggaattccgggcttgggaggctgaggcagga
2821 qactcqcttqaacccqqqaqqcaqaqqttqcaqtqaqccaagattqcgccattgcactcc
2941 caataaaaataaaaagaacagcagagagaatgagcaaggagaaatgtcacaaactattgc
3001 aaaatactgttacactgggttggctctccaagaagatactggaatctctttcagccatttg
3061 cttttcagaagtagaaaccagcaaaccactctaagcggagaacatacgattctttatta
3121 agtagetetggggaaggaaagaataaaagttgatageteeetgattgggaaaaaatgeae
3241 caaacqttqqtqqaaqqaaaacaqtataqaaaacattactttaactaaaagctggaaaaa
3301 ttttcaqttqqqatqcqactqacaaaaaqaacgggatttccaggcataaagttggcgtga
3361 gctacagagggcaccatgtggctcagtggaagacccttcaagattcaaagttccatttga
3421 cagagcaaaggcacttcgcaaggagaagggtttaaattatgggtccaaaagccaagtggt
3481 aaaqcqaqcaatttqcaqcataactgcttctcctagacagggctgagtgggcaaaatacg
3541 acaqtacacaqtgactattagccactgccagaaacaggctgaacagccctgggagaca
3601 agggaaggcaggtggtgggagttgttcatggagagaaaggagagttttagaaccagcaca
3661 tccactggagatgctgggccaccagacccctcccagtcaataaagtctggtgcctcattt
3721 gateteageeteateatgaeeetggagagaeeetgataeeatetgeeagteeeegaeage
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3781 ttaggcactccttgccatcaacctgacccccgagtggttctccaggctccctgcccac 3841 ccattcaggccggaattc

Figure 2B: The cDNA (SEQ ID. NO.: 746) and amino acid sequence (SEQ ID. NO.: 745) of 161P2F10B variant 1. The 3858 nucleotide sequence of 161P2F10B variant 1 is shown. The start methionine is underlined. The open reading frame extends from nucleic acid 44-2671 including the stop codon.

1 М E S Т L 1 ctactttattctqataaaacaqqtctatqcaqctaccaggacaATGGAATCTACGTTGAC LATEQPVKKNTLKKYKIA 61 TTTAGCAACGGAACACCTGTTAAGAAGAACACTCTTAAGAAATATAAAATAGCTTGCAT V L L A L L V I M S L G L G L G L 121 TGTTCTTGCTTGCTGGTGATCATGTCACTTGGATTAGGCCTGGGGCTTGGACTCAG K L E K Q G S C R K K C F D A S F R G L 181 GAAACTGGAAAAGCAAGGCAGCTGCAGGAAGAAGTGCTTTGATGCATCATTTAGAGGACT ENCRCDVACKDRGDCCW 241 GGAGAACTGCCGGTGTGATGTGGCATGTAAAGACCGAGGTGATTGCTGCTGGGATTTTGA CVESTRIWMCNKFRCGE 301 AGACACCTGTGTGGAATCAACTCGAATATGGATGTGCAATAAATTTCGTTGTGGAGAGAC R L E A S L C S C S D D C L Q R K D C 361 CAGATTAGAGGCCAGCCTTTGCTCTTGTTCAGATGACTGTTTGCAGAGGAAAGATTGCTG A D Y K S V C Q G E T S W L E E N C D T 421 TGCTGACTATAAGAGTGTTTGCCAAGGAGAAACCTCATGGCTGGAAGAAAACTGTGACAC AQQSQCPEGFDLPPVILF 481 AGCCCAGCAGTCTCAGTGCCCAGAAGGGTTTGACCTGCCACCAGTTATCTTGTTTTCTAT FRAEYLY T WD T L М 541 GGATGGATTTAGAGCTGAATATTTATACACATGGGATACTTTAATGCCAAATATCAATAA LKTCGIHS KYMRA М 601 ACTGAAAACATGTGGAATTCATTCAAAATACATGAGAGCTATGTATCCTACCAAAACCTT IVTGLYPESHGIID 661 CCCAAATCATTACACCATTGTCACGGGCTTGTATCCAGAGTCACATGGCATCATTGACAA Y D V N L N K N F S L S S K E Q N N 721 TAATATGTATGATGTAAATCTCAACAAGAATTTTTCACTTTCATCAAAGGAACAAAATAA PAWWHGOPMWL TAMYQGL 781 TCCAGCCTGGTGGCATGGGCAACCAATGTGGCTGACAGCAATGTATCAAGGTTTAAAAGC ATYFWPGSEVAINGSF p

287 M P Y N G S V P F E E R I S T L L K W L 901 CATGCCTTACAACGGAAGTGTCCCATTTGAAGAGAGGATTTCTACACTGTTAAAATGGCT 307 D L P K A E R P R F Y T M Y F E E P D S 961 GGACCTGCCCAAAGCTGAAAGACCCAGGTTTTATACCATGTATTTTGAAGAACCTGATTC 327 S G H A G G P V S A R V I K A L Q V V D 1021 CTCTGGACATGCAGGTGGACCAGTCAGTGCCAGAGTAATTAAAGCCTTACAGGTAGTAGA H A F G M L M E G L K Q R N L H N C V N 1081 TCATGCTTTTGGGATGTTGATGGAAGGCCTGAAGCAGCGGAATTTGCACAACTGTGTCAA IILLADHGMDQTYCNKMEYM 1141 TATCATCCTTCTGGCTGACCATGGAATGGACCAGACTTATTGTAACAAGATGGAATACAT 387 T D Y F P R I N F F Y M Y E G P A P R I 1201 GACTGATTATTTTCCCAGAATAAACTTCTTCTACATGTACGAAGGGCCTGCCCCCCGCAT 407 RAHNIPHDFFSFNSEEIVRN 427 L S C R K P D Q H F K P Y L T P D L P K 1321 CCTCAGTTGCCGAAAACCTGATCAGCATTTCAAGCCCTATTTGACTCCTGATTTGCCAAA 447 R L H Y A K N V R I D K V H L F V D Q Q 1381 GCGACTGCACTATGCCAAGAACGTCAGAATCGACAAAGTTCATCTCTTTGTGGATCAACA 467 W L A V R S K S N T N C G G G N H G Y N 1441 GTGGCTGGCTGTTAGGAGTAAATCAAATACAAATTGTGGAGGAGGCAACCATGGTTATAA 487 NEFRSMEAIFLAHGPSFKEK 1501 CAATGAGTTTAGGAGCATGGAGGCTATCTTTCTGGCACATGGACCCAGTTTTAAAGAGAA 507 TEVEPFENIEVYNLMCDLLR 1561 GACTGAAGTTGAACCATTTGAAAATATTGAAGTCTATAACCTAATGTGTGATCTTCTACG 527 I O P A P N N G T H G S L N H L L K V P 1621 CATTCAACCAGCACCAAACAATGGAACCCATGGTAGTTTAAACCATCTTCTGAAGGTGCC 547 FYEPSHAEEVSKFSVCGFAN 1681 TTTTTATGAGCCATCCCATGCAGAGGAGGTGTCAAAGTTTTCTGTTTGTGGCTTTGCTAA -567 P L P T E S L D C F C P H L Q N S T Q L 1741 TCCATTGCCCACAGAGTCTCTTGACTGTTTCTGCCCTCACCTACAAAATAGTACTCAGCT 587 E Q V N Q M L N L T Q E E I T A T V K V 1801 GGAACAAGTGAATCAGATGCTAAATCTCACCCAAGAAGAATAACAGCAACAGTGAAAGT 607 N L P F G R P R V L Q K N V D H C L L Y 1861 AAATTTGCCATTTGGGAGGCCTAGGGTACTGCAGAAGAACGTGGACCACTGTCTCCTTTA H R E Y V S G F G K A M R M P M W S S Y 1921 CCACAGGGAATATGTCAGTGGATTTGGAAAAGCTATGAGGATGCCCATGTGGAGTTCATA 647 T V P Q L G D T S P L P P T V P D C L R 1981 CACAGTCCCCAGTTGGGAGACACATCGCCTCTGCCTCCCACTGTCCCAGACTGTCTGCG

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A D V R V P P S E S O K C S F Y L A D K
2041 GGCTGATGTCAGGGTTCCTCCTTCTGAGAGCCAAAAATGTTCCTTCTATTTAGCAGACAA
      ITHGFLYPPASNRTSD
2101 GAATATCACCCACGGCTTCCTCTATCCTCCTGCCAGCAATAGAACATCAGATAGCCAATA
    D A L I T S N L V P M Y E E F R K M W D
2161 TGATGCTTTAATTACTAGCAATTTGGTACCTATGTATGAAGAATTCAGAAAAATGTGGGA
     Y F H S V L L I K H A T E R N G V N V V
G P I F D Y N Y D G H F D A P D E I
2281 TAGTGGACCAATATTTGATTATAATTATGATGGCCATTTTGATGCTCCAGATGAAATTAC
     K H L A N T D V P I P T H Y F V V L
2341 CAAACATTTAGCCAACACTGATGTTCCCATCCCAACACACTACTTTGTGGTGCTGACCAG
    C K N K S H T P E N C P G W L D V L P F
2401 TTGTAAAAACAAGAGCCACACCGGAAAACTGCCCTGGGTGGCTGGATGTCCTACCCTT
     I I P H R P T N V E S C P E G K P E A
2461 TATCATCCTCACCGACCTACCAACGTGGAGAGCTGTCCTGAAGGTAAACCAGAAGCTCT
     W V E E R F T A H I A R V R D V E L L
2521 TTGGGTTGAAGAAAGATTTACAGCTCACATTGCCCGGGTCCGTGATGTAGAACTTCTCAC
     G L D F Y O D K V O P V S E I L Q L K T
2581 TGGGCTTGACTTCTATCAGGATAAAGTGCAGCCTGTCTCTGAAATTTTGCAACTAAAGAC
    YLPTFETTI
2641 ATATTTACCAACATTTGAAACCACTATTTAActtaataatgtctacttaatatatatattt
2701 actqtataaaqtaattttqqcaaaatataagtgattttttctggagaattgtaaaataaa
2761 gttttctatttttccttaaaaaaaaaccggaattccgggcttgggaggctgaggcagga
2821 gactcgcttgaacccgggaggcagaggttgcagtgagccaagattgcgccattgcactcc
2941 caataaaaataaaaagaacagcagagagaatgagcaaggagaaatgtcacaaactattgc
3001 aaaatactgttacactgggttggctctccaagaagatactggaatctcttcagccatttg
3061 cttttcagaagtagaaaccagcaaaccacctctaagcggagaacatacgattctttatta
3121 agtagctctggggaaggaaagaataaaagttgatagctccctgattgggaaaaaatgcac
3181 aattaataaagaatgaagatgaaagaaagcatgcttatgttgtaacacaaaaaaattca
3241 caaacgttggtggaaggaaaacagtatagaaaacattactttaactaaaagctggaaaaa
3301 ttttcagttgggatgcgactgacaaaaagaacgggatttccaggcataaagttggcgtga
3361 gctacagagggcaccatgtggctcagtggaagacccttcaagattcaaagttccatttga
3421 cagagcaaaggcacttcgcaaggagaagggtttaaattatgggtccaaaagccaagtggt
3481 aaagcgagcaatttgcagcataactgcttctcctagacagggctgagtgggcaaaatacg
3541 acagtacacagtgactattagccactgccagaaacaggctgaacagccctgggagaca
3601 agggaaggcaggtggtgggagttgttcatggagagaaaggagagttttagaaccagcaca
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- ${\tt 3661}\ {\tt tccactggagatgctgggccaccagacccctcccagtcaataaagtctggtgcctcattt}$
- 3721 gatctcagcctcatcatgaccctggagagaccctgataccatctgccagtccccgacagc
- ${\tt 3781}\ {\tt ttaggcactccttgccatcaacctgacccccgagtggttctccaggctccctgccccac}$
- 3841 ccattcaggccggaattc

Figure 3A. Amino acid sequence of 161P2F10B (SEQ ID. NO.: 747). The 161P2F10B protein has 875 amino acids.

1 MESTLTLATE QPVKKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIWMCNK FRCGETRLEA SLCSCSDDCL
121 QKKDCCADYK SVCQGETSWL EENCDTAQQS QCPEGFDLPP VILFSMDGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSLS
241 SKEQNNPAWW HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEERIS
301 TLLKWLDLPK AERPRFYTMY FEEPDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQRN
361 LHNCVNIILL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIRAHN IPHDFFSFNS
421 EEIVRNLSCR KPDQHFKPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNTNCGG
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTHGSLN
541 HLLKVPFYEP SHAEEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQEEI
601 TATVKVNLPF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTVPQ LGDTSPLPPT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSDSQYDALI TSNLVPMYEE
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNYDGHFD APDEITKHLA NTDVPIPTHY
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCPE GKPEALWVEE RFTAHIARVR
841 DVELLTGLDF YQDKVQPVSE ILQLKTYLPT FETTI

Figure 3B. Amino acid sequence of 161P2F10B variant 1 (SEQ ID. NO.: 748). The 161P2F10B variant 1 protein has 875 amino acids.

1 MESTLTLATE QPVKKNTLKK YKIACIVLLA LLVIMSLGLG LGLGLRKLEK QGSCRKKCFD
61 ASFRGLENCR CDVACKDRGD CCWDFEDTCV ESTRIWMCNK FRCGETRLEA SLCSCSDDCL
121 QRKDCCADYK SVCQGETSWL EENCDTAQQS QCPEGFDLPP VILFSMDGFR AEYLYTWDTL
181 MPNINKLKTC GIHSKYMRAM YPTKTFPNHY TIVTGLYPES HGIIDNNMYD VNLNKNFSLS
241 SKEQNNPAWW HGQPMWLTAM YQGLKAATYF WPGSEVAING SFPSIYMPYN GSVPFEERIS
301 TLLKWLDLPK AERPRFYTMY FEEPDSSGHA GGPVSARVIK ALQVVDHAFG MLMEGLKQRN
361 LHNCVNIILL ADHGMDQTYC NKMEYMTDYF PRINFFYMYE GPAPRIRAHN—IPHDFFSFNS
421 EEIVRNLSCR KPDQHFKPYL TPDLPKRLHY AKNVRIDKVH LFVDQQWLAV RSKSNTNCGG
481 GNHGYNNEFR SMEAIFLAHG PSFKEKTEVE PFENIEVYNL MCDLLRIQPA PNNGTHGSLN
541 HLLKVPFYEP SHAEEVSKFS VCGFANPLPT ESLDCFCPHL QNSTQLEQVN QMLNLTQEEI
601 TATVKVNLPF GRPRVLQKNV DHCLLYHREY VSGFGKAMRM PMWSSYTVPQ LGDTSPLPPT
661 VPDCLRADVR VPPSESQKCS FYLADKNITH GFLYPPASNR TSDSQYDALI TSNLVPMYEE
721 FRKMWDYFHS VLLIKHATER NGVNVVSGPI FDYNYDGHFD APDEITKHLA NTDVPIPTHY
781 FVVLTSCKNK SHTPENCPGW LDVLPFIIPH RPTNVESCPE GKPEALWVEE RFTAHIARVR
841 DVELLTGLDF YODKVOPVSE ILOLKTYLPT FETTI

Figure 4

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511	511	511	511	119	511	511	511	511	511
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80 80 Figure 4b. Amino acid alignment of 161P2F10B (SEQ. ID. No. 747) with 161P2F10B variant 1 (SEQ. ID. No. 748).
161P2F10B mestltlategpvkkntlkkykiacivllallvimslglg
161P2F10B variant 1 mestltlategpvkkntlkkykiacivllallvimslglg

120 120	160 160	200	240 240	280	320 320	360	400	440 440	480	520 520	560 560	909
nkfrcgetrleaslcscsddcl 1	wleencdtaqqsqcpegfdlpp 1	tlmpninklktcgihskymram 2	eshgiidnnmydvnlnknfsls	amyqglkaatyfwpgsevaing 2	istllkwldlpkaerprfytmy	ikalqvvdhafgmlmeglkqrn	ycnkmeymtdyfprinffymye 4	nseeivrnlscrkpdghfkpyl 4	vhlfvdqqwlavrsksntncgg 4	hgpsfkektevepfenievynl s	lnhllkvpfyepshaeevskfs	hlqnstqleqvnqmlnltqeei (
nkfrcgetrleaslcscsddcj 1	wleencdtaqqsqcpegfdlpp 1	tlmpninklktcgihskymram 2	eshgiidnnmydvnlnknfsls	amyqglkaatyfwpgsevaing 2	istllkwldlpkaerprfytmy 3	ikalqvvdhafgmlmeglkqrn	ycnkmeymtdyfprinffymye 4	nseeivrnlscrkpdghfkpyl 4	vhlfvdqqwlavrsksntncgg 4	hgpsfkektevepfenievynl s	lnhllkvpfyepshaeevskfs	hlqnstqleqvnqmlnltqeei (
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ccwdfedtcv	q <mark>k</mark> kdccadyk	vilfsmdgfr	yptktfpnhy	skeqnnpaww	sfpsiympyn	feepdssgha	lhncvniill	gpaprirahn	tpdlpkrlhy	gnhgynnefr	mcdllriqpa	vegfanplþt
ccwdfedtcv	qrkdccadyk	vilfsmdgfr	yptktfpnhy	skeqnnpaww	sfpsiympyn	feepdssgha	lhnrvniill	gpaprirahn	tpdlpkrlhy	gnhgynnefr	mcdllriqpa	vegfanplþt
161P2F10B 161P2F10B variant 1	161P2F10B variant 1	161P2F10B variant 1	161P2F10B variant 1	161P2F10B 161P2F10B variant 1	161P2F10B variant 1	161P2F10B 161P2F10B variant 1	161P2F10B 161P2F10B variant 1	161P2F10B 161P2F10B variant 1				

640 640	680	720 720	760 760	800	840 840	875 875
prvlqknvdhcllyhreyvsgfgkamrm 6	dtsplpptvpdclradvrvppsesgkcs 6	lyppasnrtsdsgydalitsnlvpmyee 7	likhaterngvnvvsgpifdynydghfd 7	dvpipthyfvvltscknkshtpencpgw 8	tnvescpegkpealwveerftahiarvr 8	dkvgpvseilglktylptfetti
prvlqknvdhcllyhreyvsgfgkamrm 6	dtsplpptvpdclradvrvppsesgkcs 6	lyppasnrtsdsgydalitsnlvpmyee 7	likhaterngvnvvsgpifdynydghfd 7	dvpipthyfvvltscknkshtpencpgw 8	tnvescpegkpealwveerftahiarvr 8	dkvgpvseilglktylptfetti
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tatvkvnl)	pmwssytv]	fyladkni	frkmwdyf]	apdeitkh	ldvlpfii)	dvelltgl
161P2F10B	161P2F10B	161P2F10B	161P2F10B	161P2F10B	161P2F10B	161P2F10B
variant 1	variant 1					
161P2 161P2F10B varia	161P2F10B varia	161P2 161P2F10B varia	161P2 161P2F10B varia	161P2F10B varia	161P2F10B varia	161P2 161P2F10B varia

4C) Alignment of 161P2F10B (SEQ. ID. No. 749) and SNP variant 2 (SEQ. ID. No. 750) carrying a T to P mutation at position 874.

Query:	492	MEAIFLAHGPSFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS MEAIFLAHGPSFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS	551
Sbjct:	1	MEAIFLAHGPSFKEKTEVEPFENIEVYNLMCDLLRIQPAPNNGTHGSLNHLLKVPFYEPS	60
Query:	552	HAEEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPFG HAEEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPFG	611
Sbjct:	61	HAEEVSKFSVCGFANPLPTESLDCFCPHLQNSTQLEQVNQMLNLTQEEITATVKVNLPFG	120
Query: 671	612	RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTVPQLGDTSPLPPTVPDCLRADVRV	
0,1		RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTVPQLGDTSPLPPTVPDCLRADVRV	
Sbjct:	121	RPRVLQKNVDHCLLYHREYVSGFGKAMRMPMWSSYTVPQLGDTSPLPPTVPDCLRADVRV	180
Query:		PPSESQKCSFYLADKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV PPSESQKCSFYLADKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV	731
Sbjct:		PPSESQKCSFYLADKNITHGFLYPPASNRTSDSQYDALITSNLVPMYEEFRKMWDYFHSV	240
Query:	732	LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPIPTHYFVVLTSCKNKS LLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLANTDVPIPTHYFVVLTSCKNKS	791
Sbjct:	241		300
Query:	792	HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY	851
Sbjct:	301	HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY HTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVRDVELLTGLDFY	360
Query:	852	QDKVQPVSEILQLKTYLPTFETTI 875 QDKVQPVSEILQLKTYLPTFET I	
Sbjct:	361	QDKVQPVSEILQLKTYLPTFETPI 384	

Figure 5: 161P2F10B Hydrophilicity profile (Hopp T.P., Woods K.R., 1981. Proc. Natl. Acad. Sci. U.S.A. 78:3824-3828)

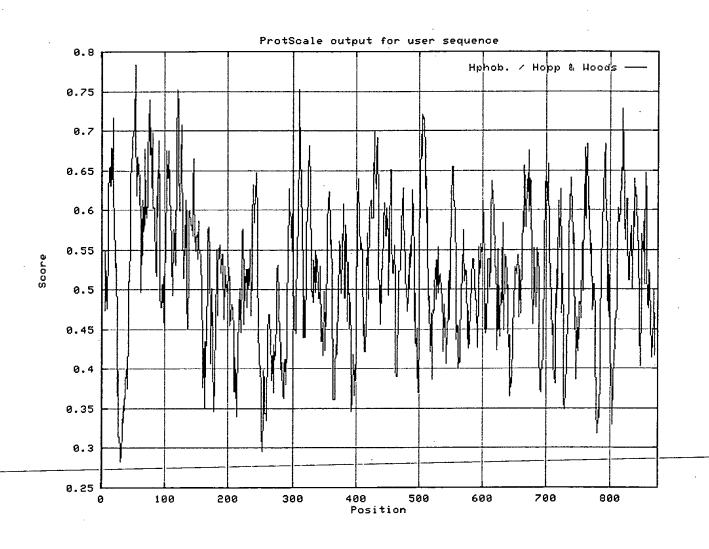


Figure 6: 161P2F10B Hydropathicity Profile (Kyte J., Doolittle R.F., 1982. J. Mol. Biol. 157:105-132)

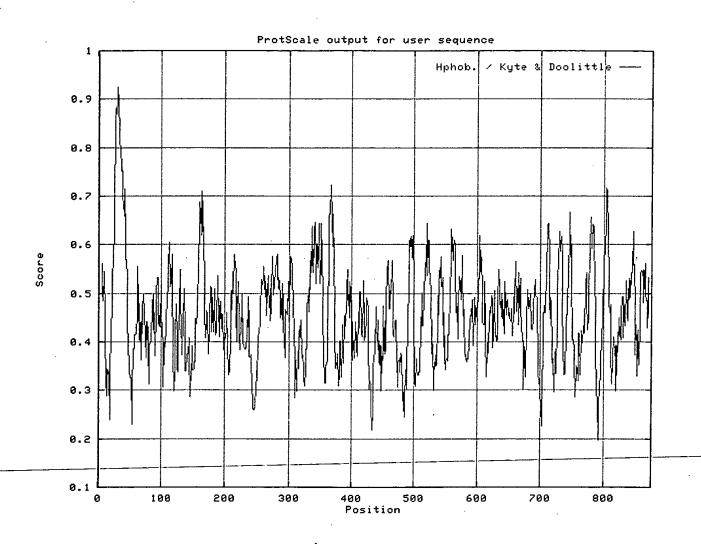


Figure 7: 161P2F10B % Accessible Residues Profile (Janin J., 1979. Nature 277:491-492)

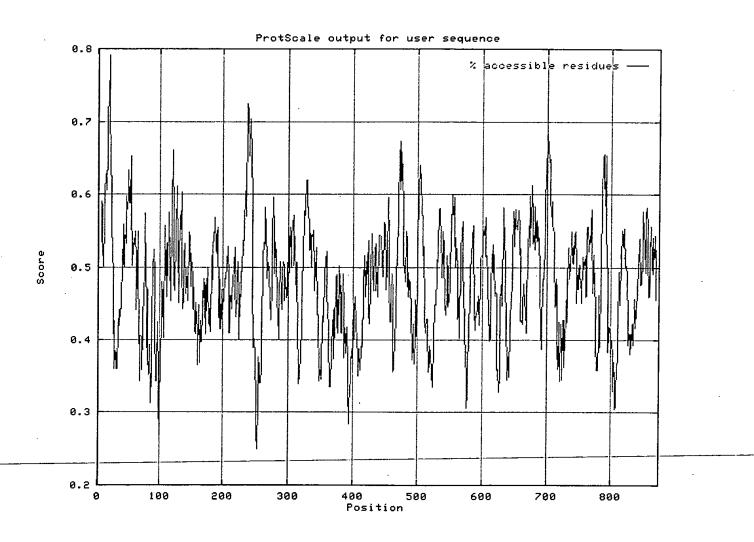


Figure 8: 161P2F10B Average Flexibility Profile

(Bhaskaran R., Ponnuswamy P.K., 1988. Int. J. Pept. Protein Res. 32:242-255)

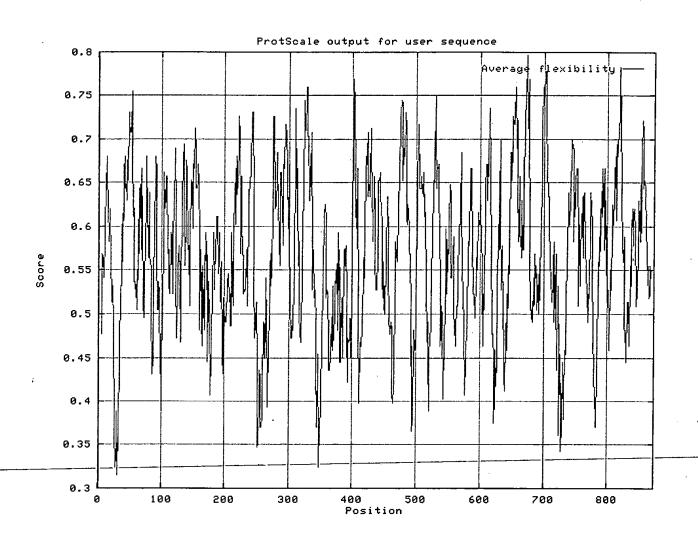
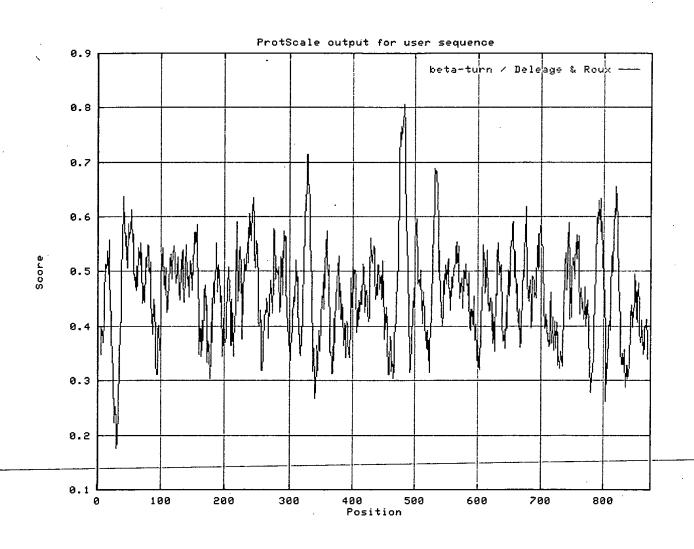


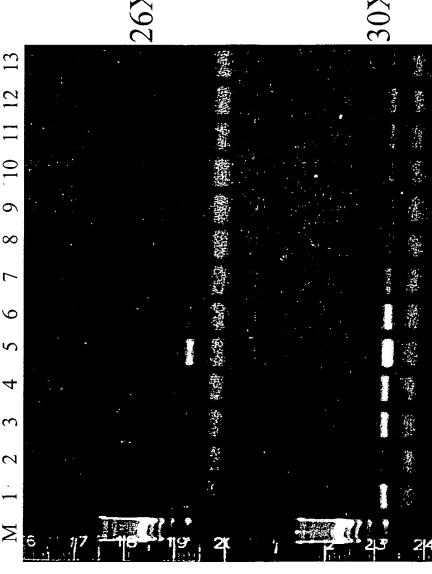
Figure 9: 161P2F10B Beta-turn Profile (Deleage, G., Roux B. 1987. Protein Engineering 1:289-294)







- Vital Pool 1
- Vital Pool 2
- 3) Xenograft Pool
- .) Prostate Cancer Pool
- Kidney Cancer Pool
- Colon Cancer Pool
 - Lung Cancer Pool
- Ovary Cancer Pool
- Breast Cancer Pool Metastasis Pool
- Pancreas cancer Pool
- Prostate Met to LN #1
- Prostate Met to LN #2



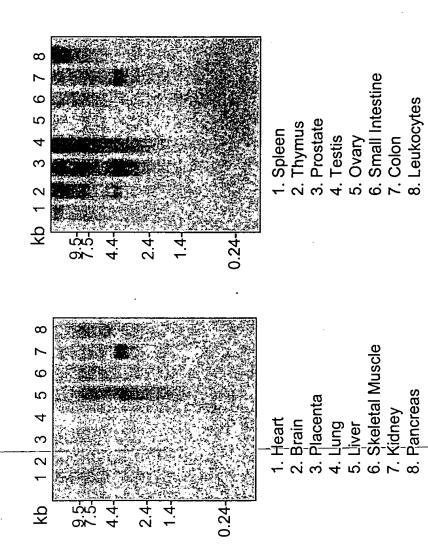


Figure 12: Expression of 161P2F10B in Patient Kidney Cancer Specimens and in Normal Tissues

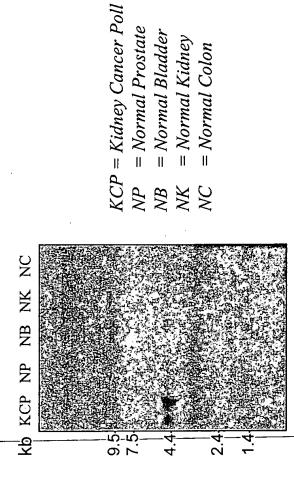
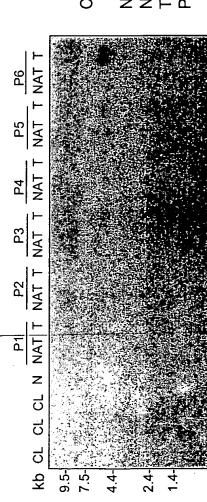


Figure 13: Expression of 161P2F10B in Kidney Cancer Patient Specimens



= cell lines listed in order: 769-P, NAT = Normal adjacent tumor = Normal kidney A498, SW839 = Tumor

= Patient

P1 - Papillary carcinoma, stage I

Invasive papillary carcinoma P2 - 1

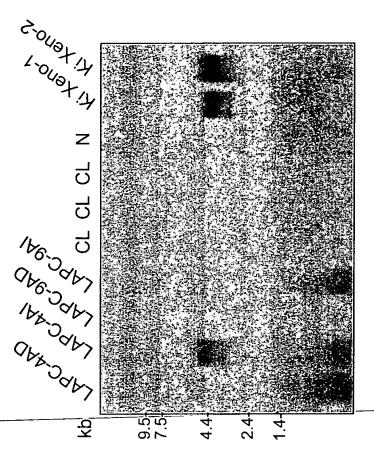
Clear cell type grade 1/3, focally 2/3 Clear cell type, stage III

P4 -P5 -

Clear cell type, stage III

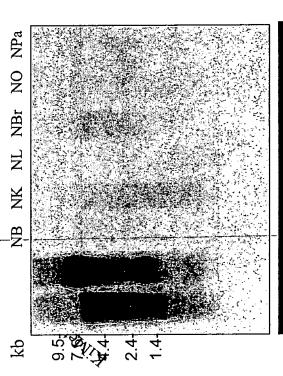
Clear cell type, stage III

Figure 14: Expression of 161P2F10B in Kidney Cancer Xenografts

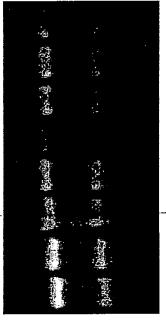


CL = cell lines listed in order: 769-P, A498, Caki-1 N = Normal kidney Ki Xeno = Kidney xenograft

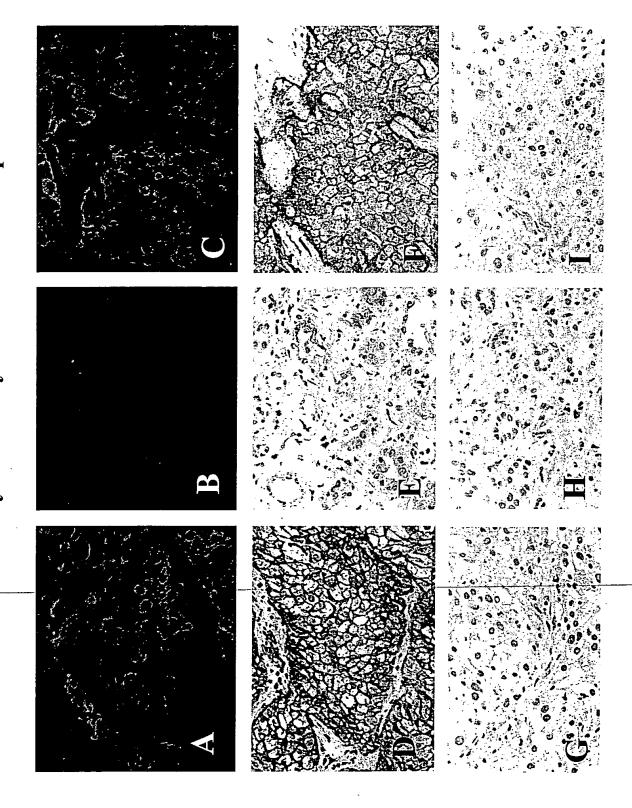
Figure 15: Expression of 161P2F10B in Kidney Cancer Metastasis Specimens and in Normal Tissues



KiMet I = Kidney Metastasis to lung
KiMet 2 = Kidney Metastasis to lymph node
NB = Normal Bladder
NK = Normal Kidney
NL = Normal Lung
NBr = Normal Breast
NO = Normal Pancreas



Immunohistochemistry in Kidney Cancer Patient Specimens Figure 16: Expression of 161P2F10B Protein by



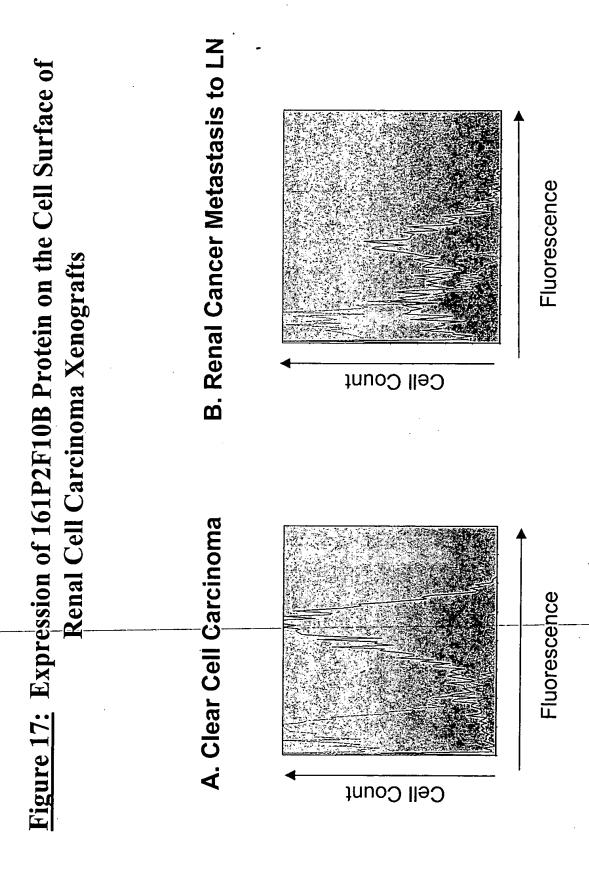


Figure 18: Expression of 161P2F10B Protein by Immunohistochemistry in Human Cancer Xenograft Tissues

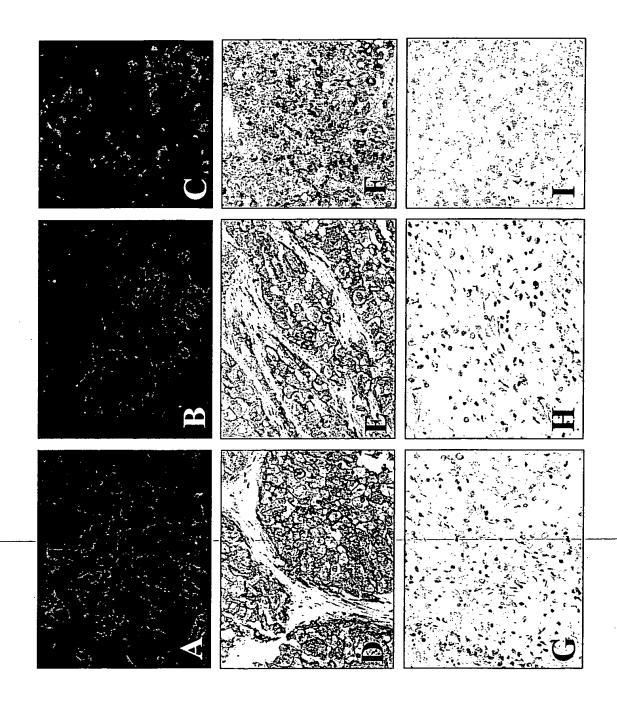


Figure 19A (Seq. ID. No. 751)

MESTLTLATEOPVKKNTLKKYKIACIVLLALLVIMSLGLGLGLGLRKLEKQGSCRKKCFDASFRGLENCR CDVACKDRGDCCWDFEDTCVESTRIWMCNKFRCGETRLEASLCSCSDDCLOKKDCCADYKSVCQGETSWL EENCDTAQQSQCPEGFDLPPVILFSMDGFRAEYLYTWDTLMPNINKLKTCGIHSKYMRAMYPTKTFPNHY TIVTGLYPESHGIIDNNMYDVNLNKNFSLSSKEQNNPAWWHGQPMWLTAMYQGLKAATYFWPGSEVAING SFPSIYMPYNGSVPFEERISTLLKWLDLPKAERPRFYTMYFEEPDSSGHAGGPVSARVIKALQVVDHAFG MLMEGLKORNLHNCVNIILLADHGMDOTYCNKMEYMTDYFPRINFFYMYEGPAPRIRAHNIPHDFFSFNS EEIVRNLSCRKPDQHFKPYLTPDLPKRLHYAKNVRIDKVHLFVDQQWLAVRSKSNTNCGGGNHGYNNEFR SMEAIFLAHGPSFKEKTEVEPFENIEVYNLMCDLLRIOPAPNNGTHGSLNHLLKVPFYEPSHAEEVSKFS VCGFANPLPTESLDCFCPHLONSTOLEOVNOMLNLTOEEITATVKVNLPFGRPRVLQKNVDHCLLYHREY VSGFGKAMRMPMWSSYTVPOLGDTSPLPPTVPDCLRADVRVPPSESQKCSFYLADKNITHGFLYPPASNR TSDSOYDALITSNLVPMYEEFRKMWDYFHSVLLIKHATERNGVNVVSGPIFDYNYDGHFDAPDEITKHLA NTDVPIPTHYFVVLTSCKNKSHTPENCPGWLDVLPFIIPHRPTNVESCPEGKPEALWVEERFTAHIARVR DVELLTGLDFYQDKVQPVSEILQLKTYLPTFETTI

hheehccccchchhchhhhhehhhhccccccc

c: random coil (31.31%)

e: extended strand (11.31%)

h: alpha helix (57.37%)

Figure 19B

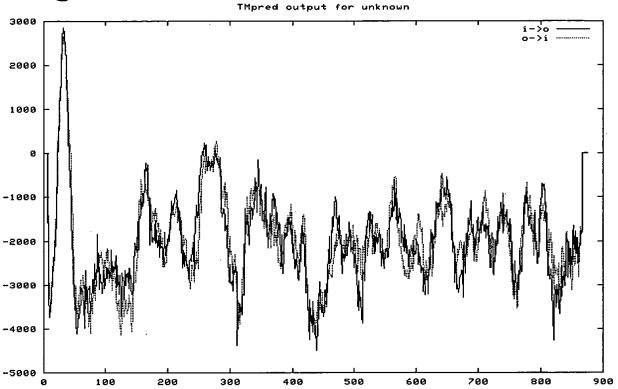


Figure 19C

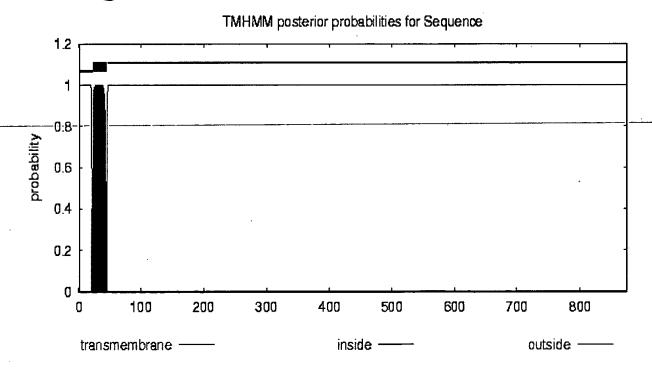
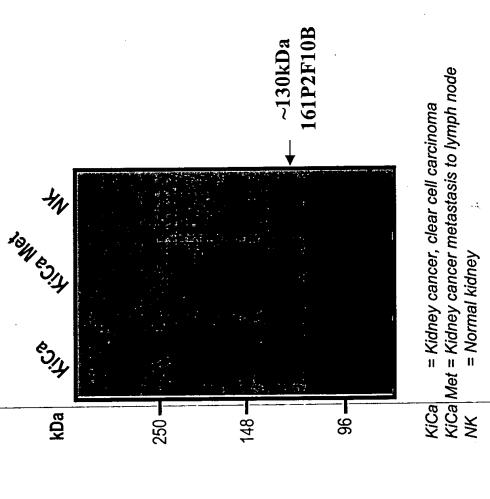
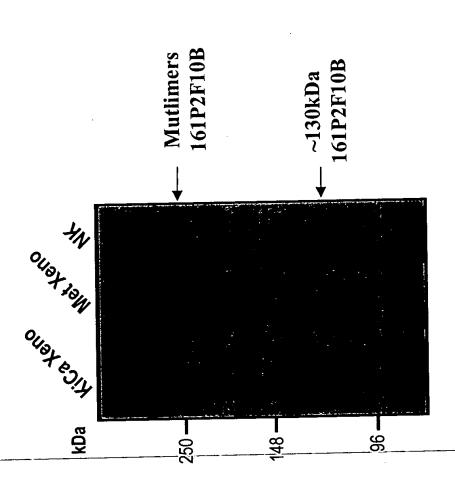


Figure 20 Expression of 161P2F10B in Human Patient Cancers by Western Blot



Expression of 161P2F10B in Human Xenograft **Tissues by Western Blot** Figure 21



KiCa Xeno = Xenograft of kidney cancer, clear cell carcinoma

Met Xeno = Xenogrraft from Kidney cancer metastasis to lymph node

NK = Normal kidney